

**AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. (currently amended): A method of forming a metal pattern, comprising the steps of:
  - (I) forming on a substrate a polymer layer in a pattern form in which by using a compound polymer having which has a polymerizable group and a functional group that interacts with an electroless plating catalyst or a precursor thereof is chemically bonded directly to the substrate in a pattern form;
  - (II) adding the electroless plating catalyst or precursor thereof to the polymer layer; and
  - (III) forming a metal layer in the pattern form by electroless plating.
  
2. (currently amended): The metal pattern forming method according to Claim 1, wherein the step (I) further comprises:
  - a step of forming a polymerization initiating layer in which a polymer having, on a side chain thereof, a crosslinking group and a functional group having polymerization initiating capability is immobilized by a crosslinking reaction on a base material; and
  - a step of forming a polymer the polymer layer in the pattern form onto the polymerization initiating layer in which by using a compound polymer having which has a polymerizable group and a functional group that interacts with the electroless plating catalyst or precursor thereof is chemically bonded in the pattern form directly onto the polymerization initiating layer.
  
3. (currently amended): A method of forming a metal pattern, comprising the steps of: ~~The metal pattern forming method according to Claim 1, wherein the step (I) further comprises:~~
  - ~~a step (I-1-1) of forming on the~~ a substrate a polymer layer by using a compound ~~chemically bonding a polymer which has a~~ polymerizable group and a functional group whose structure is changed to a structure that interacts with the electroless plating catalyst or precursor

thereof or loses the interaction capability with the electroless plating catalyst or precursor thereof, due to application heat, acid, or radiation; ~~and~~

~~a step (I-1-2) of forming, in the polymer layer in a pattern form, a so that the polymer layer in the pattern form that~~ interacts with the electroless plating catalyst or precursor thereof, due to application of heat, acid, or radiation to the polymer layer in the pattern form; and

(II) adding the electroless plating catalyst or precursor thereof to the polymer layer; and  
(III) forming a metal layer in the pattern form by electroless plating.

4. (original): The metal pattern forming method according to Claim 3, wherein the substrate in the step (I-1-1) is a substrate having a polymerization initiating layer in which a polymer having, on a side chain thereof, a crosslinking group and a functional group having polymerization initiating capability is immobilized by a crosslinking reaction on a base material.

5. (currently amended): The metal pattern forming method according to Claim 1, wherein

the step (I) further comprises:

a step (I-2) of contacting a compound having a polymerizable group and a functional group that interacts with the electroless plating catalyst or precursor thereof with the substrate, irradiating the substrate with radiation in the pattern form, ~~chemically bonding the compound directly to the substrate,~~ and thus forming, in the pattern form, a polymer layer that interacts with the electroless plating catalyst or precursor thereof.

6. (original): The metal pattern forming method according to Claim 5, wherein the substrate in the step (I-2) is a substrate having a polymerization initiating layer in which a polymer having, on a side chain thereof, a crosslinking group and a functional group having polymerization initiating capability is immobilized by a crosslinking reaction on a base material.

7. (currently amended): The metal pattern forming method according to Claim 1, wherein the step (I) further comprises:

a step (I-3-1) of forming on a base material a photosensitive layer containing a light to heat conversion substance selected from the group consisting of a dye, a pigment, and a metal fine particle that have a maximum absorption wavelength in an energy exposure wavelength region of 760 to 1,200 nm, and a binder, and forming a polymer layer by using a compound chemically bonding a polymer having which has a polymerizable group and a functional group that interacts with an electroless plating catalyst or a precursor thereof directly onto the entire surface of the photosensitive layer; and

a step (I-3-2) of forming, in the pattern form, a polymer layer that interacts with the electroless plating catalyst or precursor thereof by irradiating the polymer layer with radiation in the pattern form and ablating the photosensitive layer.

**8.** (original): The metal pattern forming method according to Claim 7, wherein the photosensitive layer in the step (I-3-1) is a polymerization initiating layer in which a polymer having, on a side chain thereof, a crosslinking group and a functional group having polymerization initiating capability is immobilized on the base material by a crosslinking reaction.

**9.** (original): The metal pattern forming method according to Claim 1, further comprising a step of carrying out drying after the step (III).

**10.** (original): The metal pattern forming method according to Claim 1, further comprising a step (IV) of carrying out electroplating after the step (III).

**11.** (original): The metal pattern forming method according to Claim 10, further comprising a step of carrying out drying after the step (IV).

**12.** (original): The metal pattern forming method according to Claim 1, wherein the substrate is a substrate having a surface roughness of 500 nm or less.

**13-19.** (canceled)

**20.** (currently amended): A method of forming a conductive film, comprising the steps of:

(A) producing a substrate having a polymerization initiating layer in which a polymer having, on a side chain thereof, a crosslinking group and a functional group having polymerization initiating capability is immobilized by a crosslinking reaction on a base material;

(B) generating a graft polymer by using a compound ~~chemically bonding a polymer having which has a polymerizable group~~ and a functional group that interacts with an electroless plating catalyst or a precursor thereof directly onto the entire surface of the polymerization initiating layer;

(C) adding the electroless plating catalyst or precursor thereof to the graft polymer; and

(D) forming a metal layer by electroless plating.

**21.** (currently amended): ~~[[A]]~~The conductive film forming method according to Claim 20, wherein the step (B) further comprises:

a step (B-1) of generating an active site on the polymerization initiating layer by applying energy to the surface of the particular polymerization initiating layer after contacting a compound having a polymerizable group and a functional group that interacts with the electroless plating catalyst or precursor thereof with the polymerization initiating layer; and then generating, with the active site as a base point, a graft polymer having a functional group that interacts with the electroless plating catalyst or precursor thereof ~~and chemically bonding directly to~~ on the surface of the polymerization initiation layer.

**22.** (original): The conductive film forming method according to Claim 20, further comprising a step (E) of carrying out electroplating after the step (D).

**23.** (original): The conductive film forming method according to Claim 20 wherein the substrate is a substrate having a surface roughness of 500 nm or less.

**24-25.** (canceled)

**26. (new):** The metal pattern forming method according to Claim 1, wherein the functional group that interacts with an electroless plating catalyst or a precursor thereof is selected from the group consisting of a carboxyl group, a sulfate group, a phosphate group, an amino group or a salt thereof, a hydroxyl group, an amido group, a phosphine group, an imidazole group, a pyridine group or a salt thereof, or an ether group.

**27. (new):** The conductive film forming method according to Claim 20, wherein the functional group that interacts with the electroless plating catalyst or a precursor thereof is selected from the group consisting of a carboxyl group, a sulfate group, a phosphate group, an amino group or a salt thereof, a hydroxyl group, an amido group, a phosphine group, an imidazole group, a pyridine group or a salt thereof, or an ether group.

**28. (new)** The metal pattern forming method according to Claim 3, further comprising a step (IV) of carrying out electroplating after the step (III).

**29. (new)** The metal pattern forming method according to Claim 3, wherein the substrate is a substrate having a surface roughness of 500 nm or less.

**30. (new):** The metal pattern forming method according to Claim 3, wherein the functional group that interacts with an electroless plating catalyst or a precursor thereof is selected from the group consisting of a carboxyl group, a sulfate group, a phosphate group, an amino group or a salt thereof, a hydroxyl group, an amido group, a phosphine group, an imidazole group, a pyridine group or a salt thereof, or an ether group.

**31. (new):** The metal pattern forming method according to Claim 28, further comprising a step of carrying out drying after the step (IV).